Q
1
.S39

SCIENCE

NEW SERIES. VOLUME XXXIV

JULY-DECEMBER, 1911

NEW YORK
THE SCIENCE PRESS
1911

THE NEW ERA PRINTING COMPANY,
41 North Queen Street,
Lancaster, Pa.

CONTENTS AND INDEX.

NEW SERIES. VOL. XXXIV.—JULY TO DECEMBER, 1911.

The Names of Contributors are printed in Small Capitals.

ABBE, C., Climatology, J. Hann, 155; Needs of Meteorology, 602
Abortion, Contagious, in Cattle, H. L. RUSSELL, 494; W. J. MACNEAL, 874
Adams, E. P., Electromagnetism, G. T. WALKER, 493
Adams, W. S., Rotation Period of the Sun, J. S. PLASKETT, 606
Agricultural, Chemists, Official, 235; Research in Great Britain, 373; College, W. H. JORDAN, 773
Agriculture, Dept. of., and Dr. Wiley, 121, 153, 240, 367, 638, 759
Air, we breathe in Buildings, M. MOTT-SMITH, 150; W. M. WILSON, 152; A. G. WEBSTER, 312; T. G. DABNEY, 380; J. G. BERGEN, 407; H. F. DUNHAM, 514; in Depths of Ocean, C. HERING, 239; P. N. EVANS, 562; G. W. LITTLEHALES, 874
Air-bladder in Fishes, E. C. STARKS, 496, 638; C. TATE REGAN, 684
Alaska Surveys, 265
Alder, Hancock and Eliot on Mollusca, W. H. DALL, 849
Alkali, White and Black, E. W. HILGARD, 21
ALSBERG, C. L., Mechanism of Cell Activity, 97
American, Association for the Advancement of Science, 674; A. A. MICHELSON, 893; Philosophical Society, 692; Society of Naturalists, H. S. JENNINGS, 902
ANDERSON, R., New Gas Volcano, 834
Andrews, C. W., Reptiles of Oxford Clay, W. D. MATHEW, 84
Anesthetics, C. BASKERVILLE, 161
Anthropological Survey of Canada, E. SAPIR, 789
Anthropology, California Museum, 794
Archeology, American, School of, 401
Astronomical, Fellowship, 177; and Astrophys. Soc. of Amer., R. H. CURTISS, 520
ATKINSON, G. F., Minnesota Algæ, J. Tilden, 82
Attention in the Educative Process, E. J. SWIFT, 1
Aurora of September, 1908, W. F. RIGGE, 182

Bacterial Gummosis of Cherries, F. L. GRIFFIN, 615
BAILEY, E. H. S., Chemist as Conservationist, 742
Ball, Throwing a Curved, W. S. FRANKLIN, 844
BARDEEN, C. R., Medicine and Sociology, 487; Comparative Anatomy of the Skeleton, H. v. Eggeling, 412
Bartholomew's Atlas of Zoogeography, W. H. OSGOOD, 410
BASKERVILLE, C., Anesthetics, 161
BATHER, F. A., W. T. CALMAN, Genotype, 685
BAUER, L. A., Total Solar Eclipse, 105
BECKER, G. F. Toy Motor, 683
Beetham, B., Photography for Bird-lovers, F. H. HERRICK, 608
BERGEN, J. Y., House Air, 407
Bernard, H. M., Evolution, J. P. McM., 184
BERRY, E. W., Latin Diagnosis of Fossil Plants, 118
BESSEY, C. E., Botanical Notes, 215, 277, 570; Phytogeographic Survey of N. A., J. W. Harshberger, 810
BIGELOW, H. B., Work of the Michael Sars, 7
Biological, Laboratory, Marine, 306; Station, Marine, at San Diego, W. E. RITTER, 480
Biology, C. S. GAGER, 407
BIRGE, E. A., Teachers in State Colleges, 802
Blanding's Turtle, J. J. SCHOONHOVEN, 917
Blue Stain on Lumber, C. RUMBOLD, 94
Blue Hill Observatory, R. DEC. WARD, 846
BOAS, F., Chiriquian Antiquities, G. G. MacCurdy, 442; Methods of Ethnology, F. Graebner, 804
BÔCHER, M., Graduate Work in Mathematics, 853
Botanical, Notes, C. E. BESSEY, 215, 277, 570; Section of British Assoc., Address to, F. E. WEISS, 464; Investigation, B. FINK, 593; Errors, M. A. CHRYSLER, 603; Soc. of Washington, W. W. STOCKBERGER, 931
Brigham, W. T., Bark Cloth, W. H. DALL, 768
British Association, 203; Address of the President, W. RAMSAY, 289; H. H. TURNER, 321; A. HARKER, 353; W. H. R. RIVERS, 386; Appropriations, 401; D'ARCY W. THOMPSON, 417; F. E. WEISS, 464
Bruce, W. S., Polar Exploration, A. W. GREELY, 383
BURKE, C. V., Coloration and Distribution of Cyclogasteridæ, 447
BURNS, G. P., Cyrus G. Pringle, 750

CADY, W. G., Color Dispersion in the Astigmatic Eye, 26
Calculus, E. W. PONZER, 234
Calendar, Reform of, 803
CALKINS, G. N., Protozoology, 129
Calvin, Samuel, G. F. KAY, 106
CANNON, W. B., The Career of the Investigator, 65
Carboniferous Flora in the Silurian, D. WHITE, 440
CASEY, T. L., Subsidence of Atlantic Shoreline, 80
CASTLE, W. E., Double-mating of Silkworm Moths, 15; Ovarian Transplantation, 113; Mendelism, R. C. Punnett, 240
Cat, A Falling, W. S. FRANKLIN, 844
Cattell, H. W., Lippincott's Medical Dictionary, F. NEUMANN, 719
Cecidia, M. T. COOK, 683
Census, British, 266
Cestode Cells, M. W. MORSE, 770
CHANT, C. A., Text-books of Physics, 873

233186

Chapin, C. V., Infection, H. C. ERNST, 215
Charcot, J., Voyage of the "Why Not," A. W. GREELY, 920
Chemical, Soc., Amer., C. L. PARSONS, 189, 218, 250, 283; Philosophy of High-school Text-books, W. L. MILLER, 257
Chemist as Conservationist, E. H. S. BAILEY, 742
Chemistry, Conduct of Bureau of, 72; Text-books, E. A. STRONG, 408
Chemists' Club, W. MCMURTRIE, 5
Chestnut Bark Disease, I. C. WILLIAMS, 397, 704; C. RUMBOLD, 917
CHRYSLER, M. A., Botanical Errors, 603
Cell Activity, Mechanism of, C. L. ALSBERG, 97
Cicada, Periodical, R. A. GORTNER, 153
CLEGHORN, A., Hibernation, 513
CLELLAND, H. F., Siphon Springs, 845
CLEMENTS, F. E., Natural Vegetation, H. L. Shantz, 55
Coal, in Arizona, A. B. REAGAN, 271; in Pennsylvania, 631
COCKERELL, T. D. A., Fish Scales, 126; Evolution, W. E. Kellicott, 316; Samuel Hubbard Scudder, 338; Text-books and Reviewing, 561; A New Minnow, 614
COLE, A. D., Physics, W. F. Magie, 275; H. E. Hurst and R. T. Lattey, 276
COLE, F. N., Amer. Math. Soc., 455, 692
College, Man in Public Service, W. S. WASHBURN, 589; Entrance Requirements, 605
Color Dispersion, W. G. CADY, 26
Colorado, Grand Canyon of the, L. F. NOBLE, 378
Coloration and Distribution of Cyclogasteridæ, C. V. BURKE, 447
Columbia and Berlin, R. TOMBO, JR., 762
CONARD, H. S., Seed Distribution, 845
Constants, Physical and Chemical, G. N. LEWIS, G. F. HULL, J. STIEGLITZ, 158
Convocation Week, Meetings, 851, 889
COOK, M. T., Cecidia, 683
COOPER, H. C., Qualitative Analysis, 263
Correlation Notes, A. B. REAGAN, 127
Cossmann on Cerithium, E. WOOD, 346
Cotton Worm, H. T. FERNALD, 488; J. L. RANDALL, 638; J. R. WATSON, 917
Coupling vs. Random Segregation, R. A. EMERSON, 512
Crampton, H. E., Evolution, W. E. KELLICOTT, 764
CREW, H., Physical Optics, R. W. Wood, 409; Secondary Maxima of Grating Spectra, 488
CROSS, W., Hawaii and its Volcanoes, C. H. Hitchcock, 186
Crystallography, C. PALACHE, 124
CURTIS, G. C., Howell's Relief Maps, 45
CURTISS, D. R., Graduate Work in Mathematics, 853
CURTISS, R. H., Astron. and Astrophys. Soc. of Amer., 520

DABNEY, T. G., Draughts and Colds, 380
DALL, W. H., Measuring the Merit of English Writing, 115; Voyage of the Belgica, 156, 849; Subantarctic Islands, 157; Naiades of Pa., A. E. Ortmann, 214; Josiah Keep, 371; Bark Cloth, W. T. Brigham, 768; Adler, Hancock and Eliot on Mollusca, 849
DAVENPORT, E., Domesticated Animals and Plants, 715
DAVY, J. B., Inheritance of Character in Maize, 576
DEAN, B., Ohio Placoderm, 801
Dinosaurs, Laramie, F. H. KNOWLTON, 319
Discussion and Correspondence, 15, 51, 75, 113, 150, 181, 213, 239, 271, 312, 346, 378, 405, 440, 488, 512, 561, 602, 636, 683, 714, 759, 799, 841, 873, 917
Ditmars, R., Reptiles A. G. RUTHVEN, 54
Doctorates conferred by Amer. Universities, 193
DODGE, B. O., Torrey Botan. Club, 128, 932
DODGE, R. E., Geography, M. I. Newbigin, 850
Dohrn, Anton, E. B. WILSON, 632
Domesticated Animals and Plants, E. DAVENPORT, 715
Drumlins, J. MILLIS, 60
Dry-farming, R. STEWART, 248
Dudley, Charles Benjamin, W. MCMURTRIE, 639
DUDLEY, S. W., Metals on Metals, Wet, 22
Dudley, William Russell, D. S. JORDAN, 142
Due—, A. G. WEBSTER, 315
Duggar, B. M., Plant Physiology, B. E. LIVINGSTON, 244
DUNHAM, H. F., Drafts and Colds, 514

E., J., Contributions to Medical Science, H. T. Ricketts, 122
Eclipse, Total Solar, L. A. BAUER, 105
EDDY, H. T., Assoc. of American Universities, 721
Education Board, 597
Efficiency, Academic, W. G. RAYMOND, 120
Eggeling, H. v., Comparative Anatomy of the Skeleton, C. R. BARDEEN, 412
Electrical, Discharge, F. E. NIPHER, 282, 917; Engineers and the Public, D. C. JACKSON, 477
Electrons, A. G. WEBSTER, 314
Elements, Properties of the, T. W. RICHARDS, 537
Elsden, J. V., Chemical Geology, J. P. IDDINGS, 446
EMERSON, B. K., Arangement of Elements on a Helix, 640
EMERSON, R. A., Coupling vs. Random Segregation, 512
Encyclopædia Britannica, Mathematical Errors, G. A. MILLER, 761
ERNST, H. C., Infection, C. V. Chapin, 215
Ethnological Analysis of Culture, W. H. R. RIVERS, 385
Ethnologists, Methods of, R. H. LOWIE, 604
Eugenics, Congress, 483; Laboratory for, 515; K. PEARSON, 799
Euleri, Leonhardi, Opera Omnia, G. A. MILLER, 717
EVANS, P. N., Air in Depths of Ocean, 562
Executive Responsibility, SIDNEY GUNN, 119
Exploded Theories, G. F. WRIGHT, 52

F., C. L., Berliner Fellowship, 705
FARIS, R. L., Philos. Soc. of Washington, 31
FERNALD, H. T., Cotton Worm, 488
FINK, B., Botanical Investigation, 593
FISH, P. A., Physiology and Veterinary Education, 700
Fish-scales, T. D. A. COCKERELL, 125
FLETCHER, C. C., Analysis of Soils, 495
FLINT, A. S., Publications of Naval Observatory, 382
Food and Drugs Act, 53

FRANKLIN, W. S., A Falling Cat, 844; Throwing a Curved Ball, 844
FROST, W. D., Individual Towels, 347
Fundulus and Fresh Water, F. B. SUMNER, 928

GAGER, C. S., Biology, 407; The Mutation Theory, Hugo de Vries, 491
Geerligs, H. G. P., Sugar Cane Industry, F. G. WIECHMANN, 350, 923
Genotype, F. A. BATHER, W. T. CALMAN, 685; H. S. JENNINGS, 841; C. H. T. TOWNSEND, 116
Geological Excursion, E. H. and A. C. L., 611; Survey of Wisconsin, 706
Geology, Field School of, 706
German Universities, 177
GETMAN, F. H., Absorption Spectra, H. C. Jones and W. W. Strong, 82
Gibbs, Wolcott, C. E. MUNROE, 864
GILL, A. H., Material for Painting, M. Toch, 687
GLASER, O. C., Nematocysts of Microstoma, 51
GORTNER, R. A., Periodical Cicada, 153
Government, Science of, A. G. WEBSTER, 315
Graebner, F., Methods of Ethnology, F. BOAS, 804
Grand Canyon, Development, H. H. ROBINSON, 89
Gravity Balance, A. F. ROGERS, 58
GREELY, A. W., Polar Exploration, W. S. Bruce, 383; Voyage of the "Why Not," J. CHARCOT, 920
GRIFFIN, F. L., Bacterial Gumnosis of Cherries, 615
GRINDLEY, H. S., Chemistry of Food, H. C. Sherman, 466
Groth, P., Crystals, C. PALACHE, 124
GUNN, S., Executive Responsibility, 119; Science and Literature, 550
GUTHRIE, C. C., Transplantation of Ovaries, 918

HADDON, A. C., Universal Races Congress, 304
HALL, G. F., Taschenbuch für Mathematiker, 640
HAMBURGER, H. J., Osmotic Pressure in Medical Sciences, 583
Hammarsten, O., Physiological Chemistry, L. B. MENDEL, 883
HANDSCHIN, C. H., Number of Teachers in State Colleges, 556, 802
Hann, J., Climatology, C. ABBE, 155
HARKER, A., Modern Petrology, 353
HARKINS, W. D., Institute for Physical Chemistry, 595
HARRIS, N. McL., The Laboratory and Medicine, 617
HARRISON, R. G., Stereotropism of Embryonic Cells, 279
HARSHBERGER, J. W., Silva of California, W. L. Jepson, 185
Harshberger, J. W., Phytogeographic Survey of N. A., C. E. BESSEY, 810
Harvard College, Admission to, 23
HAWKINS, L. N., Genus Typha, 127
HEDRICK, E. R., Geometrie der Kräfte, H. E. Timmerding, 686
Helix, Arrangement of Elements on a, B. K. EMERSON, 640
Heredity, and Environment, C. C. LITTLE, 563; R. C. PUNNETT, 800; and Personality, H. S. JENNINGS, 902
HERING, C., Air in Depths of Ocean, 239
HERRICK, F. H., Photography for Bird-lovers, B. Beetham, 608
Herter, Christian Archibald, 507
Hibernation, A. CLEGHORN, 513
HILGARD, E. W., White and Black Alkali, 21
HILTON, W. A., The Human Face, 91
Hitchcock, C. H., Hawaii and its Volcanoes, W. CROSS, 186
HODGES, T. E., Inauguration as president at West Va., A. M. R., 751
Honorary degrees at St. Andrews, 374
HOWARD, L. O., Public Health, 24
Howe, J. A., Geology of Building Stones, G. P. MERRILL, 123
HOWE, R. H., Blanding's Turtle, 272
Howell's Relief Maps, G. C. CURTIS, 45
Human Face, W. A. HILTON, 91
Hurst, H. E. and R. T. Lattey, Physics, A. D. COLE, 276
Hydrogen, Lighting of a Jet, B. F. LOVELACE, 239

IDDINGS, J. P., Chemical Geology, J. V. Elsden, 446; Rock Minerals, G. P. Merrill, 848
Inheritance, of Characters in Maize, J. BURTT DAVY, 576; Associative, Chromosomes and, T. H. MORGAN, 636
Investigator, The Career of, W. B. CANNON, 65
Iowa Acad. of Sci., L. S. ROSS, 28
Isostasy, F. R. WATSON, 453

JACKSON, D. C., Electrical Engineers and the Public, 477
James as a Philosopher, J. ROYCE, 33
JENNINGS, H. S., Genotype, 841; Heredity and Personality, 902
Jepson, W. L., Silva of California, J. W. HARSHBERGER, 185
Johannsen, Professor, Columbia Lectures, 484
Jones, H. C. and W. W. Strong, Absorption Spectra, F. H. GETMAN, 82
JORDAN, D. S., William Russell Dudley, 142
JORDAN, W. H., The Agricultural College, 773

K., J. S., Biological Stations of Europe, C. A. KOFOID, 272
K., V. L., Evolution, A. WILLEY, 214; Evolution, J. Arthur Thomson, P. Geddes, V. L. K., 519
KAY, G. F., Samuel Calvin, 106
Kellicott, W. E., Evolution, H. E. Crampton, 764; Evolution, T. D. A. COCKERELL, 316
Keep, Josiah, W. H. DALL, 371
KEPNER, W. A., Nematocysts of Macrostoma, 213
KEYES, C. R., Origin of the Great Plains, 452
Kirchner, O. von, Blumen und Insekten, W. M. WHEELER, 57
Kirkwood, J., Guayule, F. E. LLOYD, 765
Klebs, Richard, G. F. KUNZ, 234
Knott, C. G., Peter Guthrie Tait, A. MACFARLANE, 565
KNOWLTON, F. H., Laramie Dinosaurs, 319
KOBER, G. M., Hygiene and Public Health, L. C. Parkes, 515
Kofoid, C. A., Biological Stations of Europe, J. S. K., 272
KOFOID, C. A., Zoologisches Addressbuch, 567
KUNZ, G. F., Richard Klebs, 234; Composition of Granites, T. Tchirwinsky, 348; Nephelinic Syenites, A. Lacroix, 767

Lacroix, A., Nephelinic Syenites, G. F. KUNZ, 767
Ladd, G. T., and R. S. Woodworth, Physiological Psychology, H. C. WARREN, 877
Latin Diagnosis of Fossil Plants, E. W. BERRY, 118
Life, The Rôle of Salts in the Preservation of, J. LOEB, 653, 846
Lightning, Forked, F. E. NIPHER, 442
LITTLE, C. C., Heredity and Environment, 563
LITTLEHALES, G. W., Air in the Depths of the Ocean, 874
Living Organism, Electromotive Forces manifested by, J. LOEB, 884
LIVINGSTON, B. E., Plant Physiology, B. M. Duggar, 244
LLOYD, F. E., The Ripening of Persimmons, 924
Lloyd, F. E., Guayule, J. E. KIRKWOOD, 765
LOEB, J., The Rôle of Salts in the Preservation of Life, 653, 846; Electromotive Forces manifested by the Living Organism, 884
LOEB, L., Tissue Growth, 414
LOVEJOY, A. O., Vitalism, 75
LOVELACE, B. F., Lighting of Jet of Hydrogen, 239
LOWIE, R. H., Methods of Ethnologists, 604
LURTON, F. E., Retardation in Schools, 785
LUSK, G., Sodium Benzoate, 759

McM., J. P., Evolution, H. M. BERNARD, 184
McCLENDON, J. F., and P. H. MITCHELL, Oxidation of the Egg, 281
McCOY, N., Synthetic Metals, 138
MacCurdy, G. G., Chiriquian Antiquities, F. BOAS, 442
McDANIEL, A. S., Silver Voltameter, 159
MACFARLANE, A., Pythagorean Theorem, 181; Peter Guthrie Tait, C. G. Knott, 565
McGEE, W J, Population of the United States, 428; Water-power Development, 813
McMURTRIE, W., The Chemists' Club, 5; Charles Benjamin Dudley, 639
MACNEAL, W. J., Abortion of Cattle, 874
Magie, W. F., Physics, A. D. COLE, 275
Magnalia Naturæ, D'ARCY W. THOMPSON, 417
Mathematical Soc. Amer., F. N. COLE, 455, 692
Mathematics, Graduate Work in, 853
MATHEW, W. D., Reptiles of Oxford Clay, C. W. Andrews, 84
MEANS, J., Charts of the Atmosphere, A. L. Rotch and A. H. Palmer, 273
Measuring the Merit of English Writing, W. H. DALL, 115
Medical, Education, 183, 317; Practise in Great Britain, 381; Sciences, Osmotic Pressure in, H. J. HAMBURGER, 583
Medicine, and Sociology, C. R. BARDEEN, 497; and the Laboratory, N. McL. HARRIS, 617
MENDEL, L. B., and T. C. OSBORNE, Proteins in Nutrition and Growth, 722; Physiological Chemistry, O. Hammarsten, 883
Mendelian Inheritance, T. H. MORGAN, 384
MERRILL, G. P., Travels, A. Morrison, 610; Building Stones, J. A. Howe, 123; J. Watson, 520; Rock Minerals, J. P. Iddings, 848
Metabolism in Echinoderm Egg, L. F. SHACKELL, 573
Metals, on Metals, Wet, S. W. DUDLEY, 22; Synthetic, H. N. McCOY, 138
Meteorology, and Climatology, Notes on, A. H. PALMER, 246, 687; Needs of, C. ABBE, 602
Michael Sars, Work of, H. B. BIGELOW, 7
MICHELSON, A. A., Spectroscopic Methods, 893
MILLER, G. A., Concepts of Algebra and Geometry, J. W. Young, 25; National Mathematical Society, 372; Leonhardi Euleri, Opera Omnia, 717; Mathematical Errors in Encyclopædia Britannica, 761; Parameter Groups, A. Cohen, 924
MILLER, W. L., Chemical Philosophy of High-school Text-books, 257
MILLIS, J., Drumlins, 60
Mining Congress, 373
Minnesota, Inaugural Address at, G. C. VINCENT, 733
Minnow, A New, T. D. A. COCKERELL, 614
MITCHELL, P. H., and J. F. McCLENDON, Oxidation of the Egg, 281
Models of Vorticella, H. F. NACHTRIEB, 845
MONTGOMERY, JR., T. H., Zoological Laboratory at Pennsylvania, 742
MOORE, V. A., Veterinary Education, 457
MORGAN, T. H., Mendelian Inheritance, 384;; Chromosomes and Associative Inheritance, 636; Moulting and Coat Color in Mice, 918
Morrison, A., Travels, G. P. MERRILL, 610
MORSE, M. W., Cestode Cells, 770; Scientific Societies, 875
Mosquito Romance, 842
MOTT-SMITH, M., Air we breathe in Buildings, 150
MUNROE, C. E., Wolcott Gibbs, 864
Mutants in Silkworms, W. J. SPILLMAN, 52
Myers, C. S., Experimental Psychology, H. C. WARREN, 877

NACHTRIEB, H. F., Models of Vorticella, 845
National Academy of Sciences, 812
Naval Observatory Publications, A. S. FLINT, 382
Nematocysts, of Microstoma, O. C. GLASER, 51; W. A. KEPNER, 213
NEUMANN, F., Lippincott's Medical Dictionary, H. W. Cattell, 719
Newbigin, M. I., Modern Geography, R. E. DODGE, 850
NEWCOMBE, F. C., Professor Punnett's Error, 442
NICHOLS, J. T., Variation in Decapterus, 217
NIPHER, F. E., Electrical Discharge, 282; Forked Lightning, 442
Nitrate Reduction, H. SPOEHR, 63
NOBLE, L. F., Grand Canyon of the Colorado, 378
Nomenclature, Zoological, C. W. STILES, 514, 812

Observational Sciences, H. H. TURNER, 321
ORCUTT, C. R., Cyrus Guernsey Pringle, 176
Ortmann, A. E., Naiades of Pa., W. H. DALL, 214
OSBORNE, T. C., and L. B. MENDEL, Proteins in Nutrition and Growth, 722
OSGOOD, W. H., Atlas of Zoogeography, J. G. Bartholomew, W. E. Clark, P. H. Grimshaw, 410
O'SHEA, M. V., Precocity in Children, 666
OSTERHOUT, W. J. V., Permeability of Living Cells, 187
Ovarian Transplantation, W. E. CASTLE, 113
Oxidation of the Egg, P. H. MITCHELL, and J. F. McCLENDON, 281

PALACHE, C., Crystallography, 124; Groth's Optical Properties of Crystals, 125
PALMER, A. H., Meteorology and Climatology, 246, 687
Parasitic Nematode, B. H. RANSOM, 690
Parkes, L. C., Hygiene and Public Health, G. M. KOBER, 515
PARROTT, P. J., Pear Blight, 94
PARSONS, C. L., Amer. Chem. Soc., 189, 218, 250, 283
PATON, S., University Administration, 693
Pear Blight, P. J. PARROTT, 94
PEARSON, K., Francis Galton Laboratory for Eugenics, 799
Pensions, 715
Permeability, of Living Cells, W. J. V. OSTERHOUT, 187; of Ovarian Egg-membranes of the Fowl, O. RIDDLE, 887
Persimmons, F. E. LLOYD, 924
Petrology, Modern, A. HARKER, 353
Philosophical Soc. of Washington, R. L. FARIS, 31
Physical Education Assoc., 47
Physics, Text-books Errors, C. A. CHANT, 873; Solar and Terrestrial, Lectures, 507
Pillsbury, J. H., Psychology, H. C. WARREN, 877
Placoderm, Ohio, B. DEAN, 801
Plains, Great, Origin of, C. R. KEYES, 452
PLASKETT, J. S., Rotation Period of the Sun, W. S. Adams, 606
PONZER, E. W., The Calculus, 225
Population of the United States, W J McGEE, 428
Precocity in Children, M. V. O'SHEA, 666
President, University, and his Professors, 488
Pribilof Fur-seal Herd, C. H. TOWNSEND, 568
Pringle, Cyrus Guernsey, C. R. ORCUTT, 176; G. P. BURNS, 750
Proteins in Nutrition and Growth, T. C. OSBORNE and L. B. MENDEL, 722
Protozoology, G. N. CALKINS, 129
Public Health, L. O. HOWARD, 24
Pulitzer, Joseph, Will of, 707
Pullfrich, C., Stereoscope, J. JASTROW, 921
PUNNETT, R. C., Heredity, 800
Punnett, R. C., Mendelism, W. E. CASTLE, 240; F. C. NEWCOMBE, 442; M. E. CHRYSLER, 603
Pythagorean Theorem, A. MACFARLANE, 181

Qualitative Analysis, H. C. COOPER, 263
Quotations, 23, 53, 121, 153, 183, 240, 317, 348, 381, 488, 515, 563, 605, 638, 715, 803, 919

R., A. M., Inauguration of President at West Va., 751
Races Congress, A. C. HADDON, 304
RAMSAY, W., Address of the President of the British Association, 289
RANDALL, J. L., The Cotton Worm, 638
RANSOM, B. H., A Parasitic Nematode, 690
RAYMOND, W. G., Academic Efficiency, 120
REBER, L. E., University Extension, 825
REAGAN, A. B., Correlation Notes, 127; Coal in Arizona, 271
REGAN, C. T., Air-bladder in Fish, 684
Research in Physics, G. W. STEWART, 833
Retardation in Schools, F. E. LURTON, 785
Richards, E. H., Sanitation, G. C. WHIPPLE, 81
RICHARDS, T. W., Properties of the Elements, 537
Ricketts, H. T., Contributions to Medical Science, J. E., 122
RIDDLE, O., Permeability of Ovarian Egg-membranes of the Fowl, 887
RIGGE, W. F., Aurora of September, 1908, 182
RITTER, W. E., Marine Biol. Sta. at San Diego, 480
RIVERS, W. H. R., Ethnological Analysis of Culture, 385
ROBINSON, H. H., Development of the Grand Canyon, 89
ROGERS, A. F., Specific Gravity Balance, 58
ROSS, E. H., Mosquitoes, J. B. Smith, 350
ROSS, L. S., Iowa Acad. of Sci., 28
Rotch, A. L., and A. H. Palmer, Charts of the Atmosphere, J. MEANS, 273
Royal Society, 919
ROYCE, J., James as a Philosopher, 33
RUMBOLD, C., Blue Stain on Lumber, 94; Chestnut-tree Disease, 917
RUSSELL, H. L., Contagious Abortion in Cattle, 494
RUTHVEN, A. G., Reptiles, R. Ditmars, 54

Salaries at California, 209
SAPIR, E., Anthropological Survey of Canada, 789
SCHOONHOVEN, J. J., Blanding's Turtle, 917
Science and Literature, S. GUNN, 550
Scientific, Notes and News, 10, 48, 72, 107, 146, 178, 209, 236, 268, 308, 342, 375, 402, 435, 484, 508, 557, 598, 633, 678, 708, 753, 794, 836, 868, 910; Books, 24, 54, 81, 122, 155, 214, 240, 272, 316, 348, 382, 409, 442, 491, 515, 565, 606, 639, 685, 717, 759, 804, 846, 877, 920; Journals and Articles, 53, 85, 184, 319, 351, 413; Societies, M. W. MORSE, 875; Meetings, Expenses of, F. L. WASHBURN, 876
Scudder, Samuel Hubbard, T. D. A. COCKERELL, 338
Seed Distribution, H. S. CONARD, 845
SHACKELL, L. F., Metabolism in Echinoderm Egg, 573
Shantz, H. L., Natural Vegetation, F. E. CLEMENTS, 55
Sherman, H. C., Chemistry of Food, H. S. GRINDLEY, 466
Silk-worm Moths, Double-mating, W. E. CASTLE, 15
Silliman Lectures, 435
Siphon Springs, H. F. CLELLAND, 845
SMITH, J. B., Mosquitoes, E. H. Ross, 350
SMITH, P. F., Graduate Work in Mathematics, 853
Smithsonian Institution, 768
SNYDER, C. D., Temperature Coefficients, 415
Societies and Academies, 31, 128, 455, 692, 891, 931
Sodium Benzoate, G. LUSK, 759
Soils, Analysis of, C. C. FLETCHER, 495
Solar Physics Observatory, S. Kensington, 753
Solutions, Theories of, J. WALKER, 622
Special Articles, 26, 58, 89, 125, 159, 187, 217, 248, 279, 319, 352, 384, 414, 453, 495, 573, 614, 640, 690, 722, 770, 884, 924
Spectra Grating, Secondary Maxima of, H. CREW, 488
Spectroscopic Methods, A. A. MICHELSON, 893
SPILLMAN, W. J., Mutants in Silkworms, 52
SPOEHR, H., Nitrate Reduction, 63

STARKS, E. C., Air-bladder of Fishes, 496, 638
Steinmetz's Engineering Mathematics, A. P. WILLS, 685
Stereotropism of Embryonic Cells, R. G. HARRISON, 279
STEWART, G. W., Spirit of Research in Physics, 833
STEWART, R., Dry-farming, 248
STOCKBERGER, W. W., Botanical Soc. of Wash., 931
STILES, C. W., Zoological Nomenclature, 514, 812
STRONG, E. A., Text-books of Chemistry, 408
Subantarctic Islands, W. H. DALL, 157
Subsidence of Atlantic Shoreline, T. L. CASEY, 80
SUMNER, F. B., Fundulus and Freshwater, 928
SWIFT, E. J., Attention in the Educative Process, 1

TAFT, PRESIDENT, Bureau of Chemistry, 367
Tchirwinsky, T., Composition of Granites, G. F. KUNZ, 348
Teachers, Number of, in State Colleges, C. H. HANDSCHIN, 556, 802; G. E. VINCENT, 801; E. A. BIRGE, 802
Temperature Coefficients, C. D. SNYDER, 415
Texas, University of, 307
Text-books and Reviewing, T. D. A. COCKERELL, 561
THOMPSON, D'ARCY W., Magnalia Naturæ, 417
Thompson, M. de Kay, Electrochemistry, S. A. TUCKER, 718
Thomson, J. Arthur, and P. Geddes, Evolution, V. L. K., 519
Thorndike, E. L., Animal Intelligence, J. B. WATSON, 317
Thought-transference, 348
Tilden, J., Minnesota Algæ, G. F. ATKINSON, 82
Timmerding, H. E., Geometrie der Kräfte, E. R. HEDRICK, 696
Tissue Growth, L. LOEB, 414
Toch, M., Material for Painting, A. H. GILL, 687
TOMBO, R., JR., Columbia and Berlin, 762
Torrey Botanical Club, B. O. DODGE, 128, 932
Towels, Individual, W. D. FROST, 347
TOWNSEND, C. H., Blanding's Turtle, 381; Pribilof Fur-seal Herd, 568
TOWNSEND, C. H. T., Genotypes, 116
Toy Motor, G. F. BECKER, 683
Transplantation of Ovaries, C. C. GUTHRIE, 918
TUCKER, S. A., Electrochemistry, M. deK. Thompson, 718
TURNER, H. H., Observational Sciences, 321
Turtle, Blanding's, R. H. HOWE, 272; C. H. TOWNSEND, 381
Typha, Genus, L. N. HAWKINS, 127

Universities, Congress of British, 563; Association of American, H. T. EDDY, 720
University, and Educational News, 15, 50, 75, 112, 149, 180, 212, 238, 271, 312, 345, 378, 405, 439, 487, 511, 560, 602, 635, 681, 712, 759, 799, 840, 872, 915; Administration, S. PATON, 693; Extension, L. E. REBER, 825

VAN VLECK, E. B., Graduate Work in Mathematics, 853
Variation in Decapterus, J. T. NICHOLS, 217
Veterinary Education, V. A. MOORE, 457; and Physiology, P. A. FISH, 700
VINCENT, G. E., Inaugural Address at Minnesota, 733; Teachers in State Colleges, 801
Vitalism, A. O. LOVEJOY, 75
Volcano, Gas, in Trinidad, R. ANDERSON, 834
Voltameter, Silver, A. S. MCDANIEL, 159
Voyage of the *Belgica*, W. H. DALL, 156, 849
de Vries, Hugo, The Mutation Theory, C. S. GAGER, 491

Walker, G. T., Electromagnetism, E. P. ADAMS, 493
WALKER, J., Theories of Solutions, 622
WARD, R. DEC., Blue Hill Observatory, 846
WARREN, H. C., Psychologies by R. M. Yerkes, J. H. Pillsbury, C. S. Myers, and G. T. Ladd and R. S. Woodworth, 877
WASHBURN, F. L., Expenses of Station Workers at Scientific Meetings, 876
WASHBURN, W. S., College Man in Public Service, 589
Washington Science, 405, 514, 603, 762
Water-power Development, W J MCGEE, 813
WATSON, F. R., Isostasy, 453
Watson, J., Building Stones, G. P. MERRILL, 520
WATSON, J. B., Animal Intelligence, E. L. Thorndike, 317
WATSON, J. R., Moth of the Cotton Worm, 917
WATSON, T. L., Deep Well, 125
WEBSTER, A. G., Moisture and out-of-doors, 312; Electrons, 314; The Science of Government, 315; Due—, 315
Well, Deep, T. L. WATSON, 125
WEISS, F. E., Address to Botanical Section of British Assoc., 464
WHEELER, W. M., Blumen und Insekten, O. von Kirchner, 57
WHIPPLE, G. C., Sanitation, E. H. Richards, 81
WHITE, D., Carboniferous Flora in the Silurian, 440
Whitman, Charles Otis, 267; Pigeons, 145
WHITTAKER, E. T., Ether and Electricity, J. Z., 316
WIECHMANN, F. G., Sugar-cane Industry, H. C. P. Geerligs, 350, 923
WILDER, B. G., Mistakes by the Writer and Others, 85; Methods of a Veteran Investigator, 121
Willey, A. Evolution, V. L. K., 214
WILLIAMS, I. C., Chestnut Bark Disease, 397, 704
WILLS, A. P., Steinmetz's Engineering Mathematics, 685
WILSON, E. B., Anton Dohrn, 632
WILSON, W. M., Moisture in the Air we breathe, 152
WOOD, E., Crossmann on Cerithium, 346
Wood, R. W., Physical Optics, H. CREW, 409
WRIGHT, G. F., Exploded Theories, 52

Yerkes, R. M., Psychology, H. C. WARREN, 877
Young, J. W., Concepts of Algebra and Geometry, G. A. MILLER, 25

Z., J., Ether and Electricity, E. T. WHITTAKER, 316
Zoological, Laboratory at Pennsylvania, T. H. MONTGOMERY, JR., 742; Gardens, London, 835
Zoologisches Addressbuch, C. A. KOFOID, 567